



# **GOVERNMENT CHEMIST LABORATORY AUTHORITY (GCLA)**



## **CHEMICAL SAFETY MANAGEMENT**



# COURSE CONTENT



- 1. Introduction**
- 2. Chemical Hazards**
- 3. Safety Data Sheet & Labelling**
- 4. Best practices in chemical management**
- 5. Conclusion**





# 1. INTRODUCTION

**“Chemical”** means industrial or consumer chemical, chemical product, chemical weapon or public health pesticides which is a substance in any form whether by itself or in a mixture or preparation, whether manufactured or obtained naturally but excludes medicines, agricultural or veterinary pesticides, radioactives, food additives and any other substance that has therapeutic effects. (*with respect to ICCA & GCLA Act*)

12/2/2025

[www.gcla.go.tz](http://www.gcla.go.tz)  [gclatanзания](#)  [gcla1985](#)  [gcla\\_official](#)





# 1. INTRODUCTION

- Chemicals are found in almost everywhere.
- Improper handling can cause harm in form of fires, explosions, toxic exposures, environmental releases thus chemical safety culture is needed.
- **Chemical safety means:** the practice of **handling, storing, using, and disposing off chemicals** in a way that;
  - Ensure compliance with Acts & regulations
  - Protect people, property, and the environment

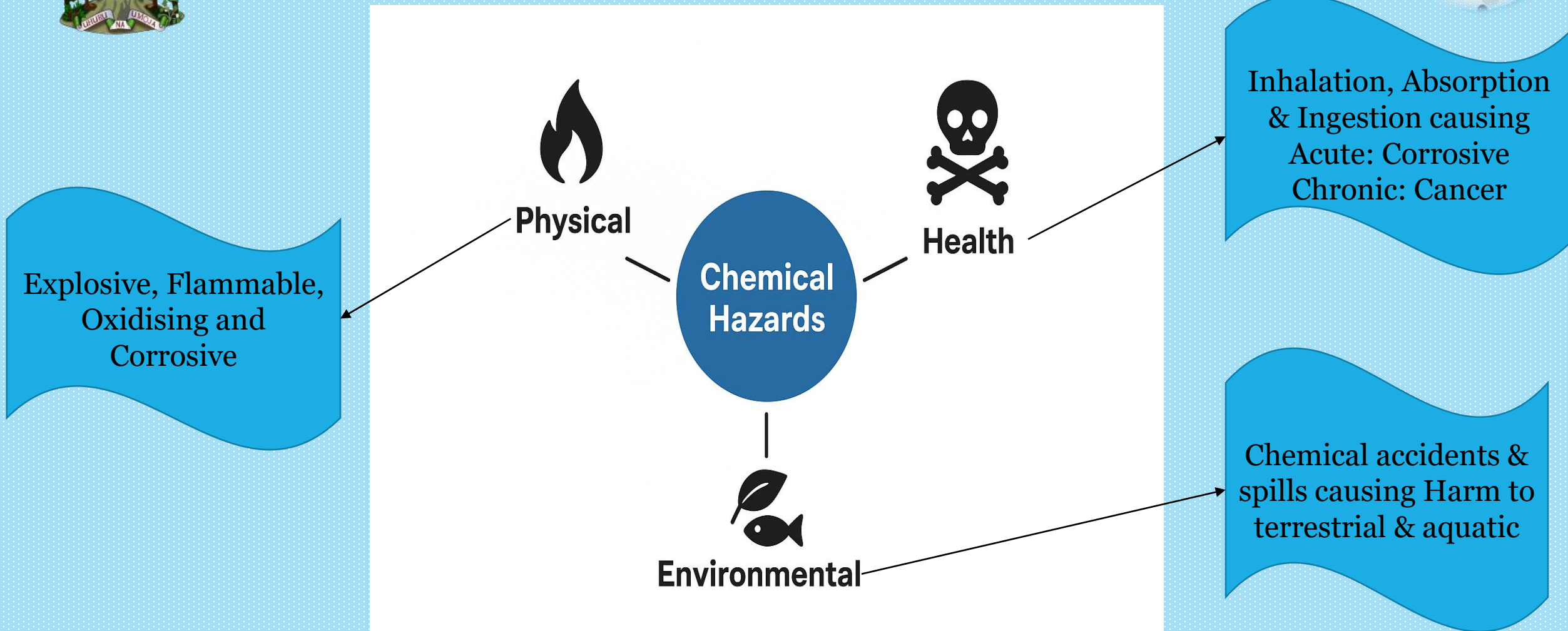


## 2. CHEMICAL HAZARDS

- **Chemical hazards** are the *potential dangers* posed by chemicals **based on their properties**.
- Chemical safety aims to control of chemical hazards
- There are three classes of chemical hazards;
  - i. Physical hazards
  - ii. Health hazards
  - iii. Environmental hazards



## 2. CHEMICAL HAZARDS...





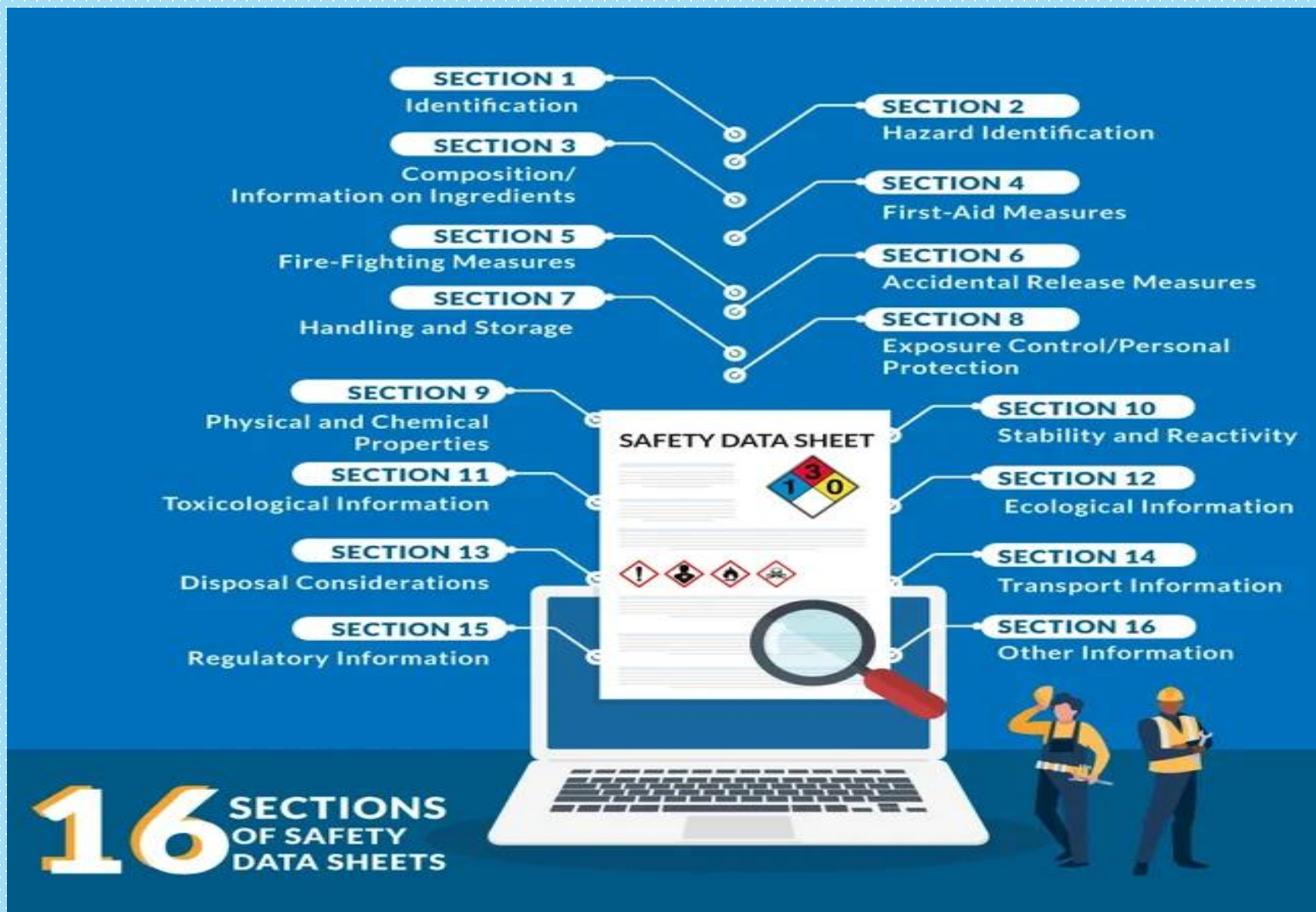


### 3. SAFETY DATA SHEET & LABELLING

- Safety Data Sheets (SDS) & Labelling are ways of communicating chemical hazards in the work place
- 3.1 SDS;
  - ✓ Explain what you need to know to safely work with a chemical
  - ✓ Must be readily accessible to employees in the work area during each work shift
  - ✓ Must have the GHS-specified 16 section format



## 3.1. SDS COMPONENTS



12/2/2025

[www.gcla.go.tz](http://www.gcla.go.tz) [gclatanzania](#) [gcla1985](#)

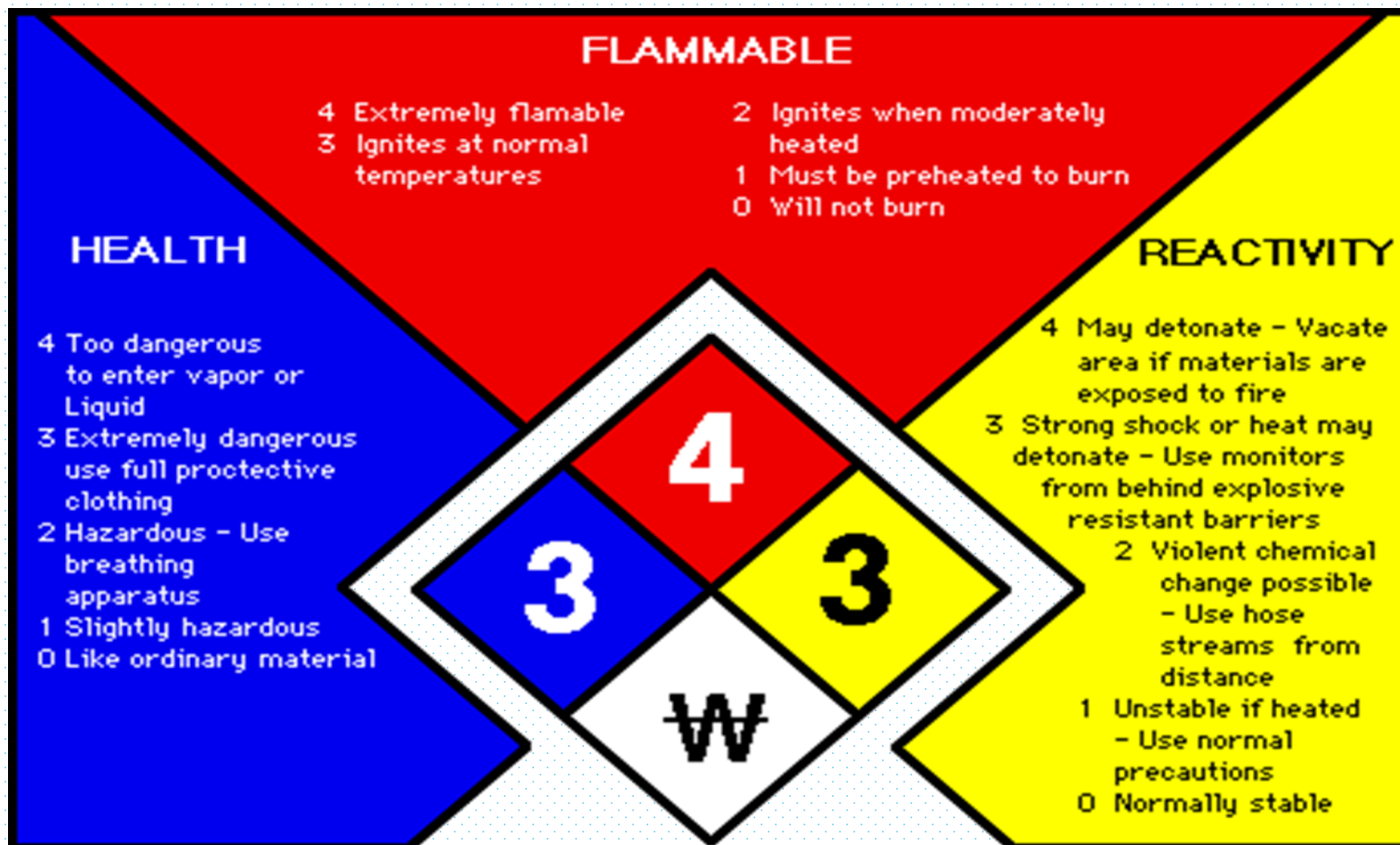
[gcla\\_official](#)







# SDS.....






# SDS.....



MIFANO

**Ammonium Nitrate**



Colorless crystals; odorless. Irritating to eyes/skin/respiratory tract. Also causes: difficulty breathing, acidic urine, systemic acidosis, and abnormal hemoglobin. Strong oxidizer capable of igniting combustible materials.

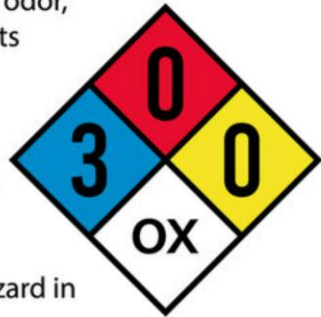
CAS No. 6484-52-2



**ANHYDROUS  
AMMONIA**

**Nitrous Oxide**

Colorless gas; slight sweet odor, inhalation of small amounts causes euphoria. Higher levels cause drowsiness, incoordination and unconsciousness. Contact with the compressed gas can cause frostbite. May present a reproductive hazard in women.

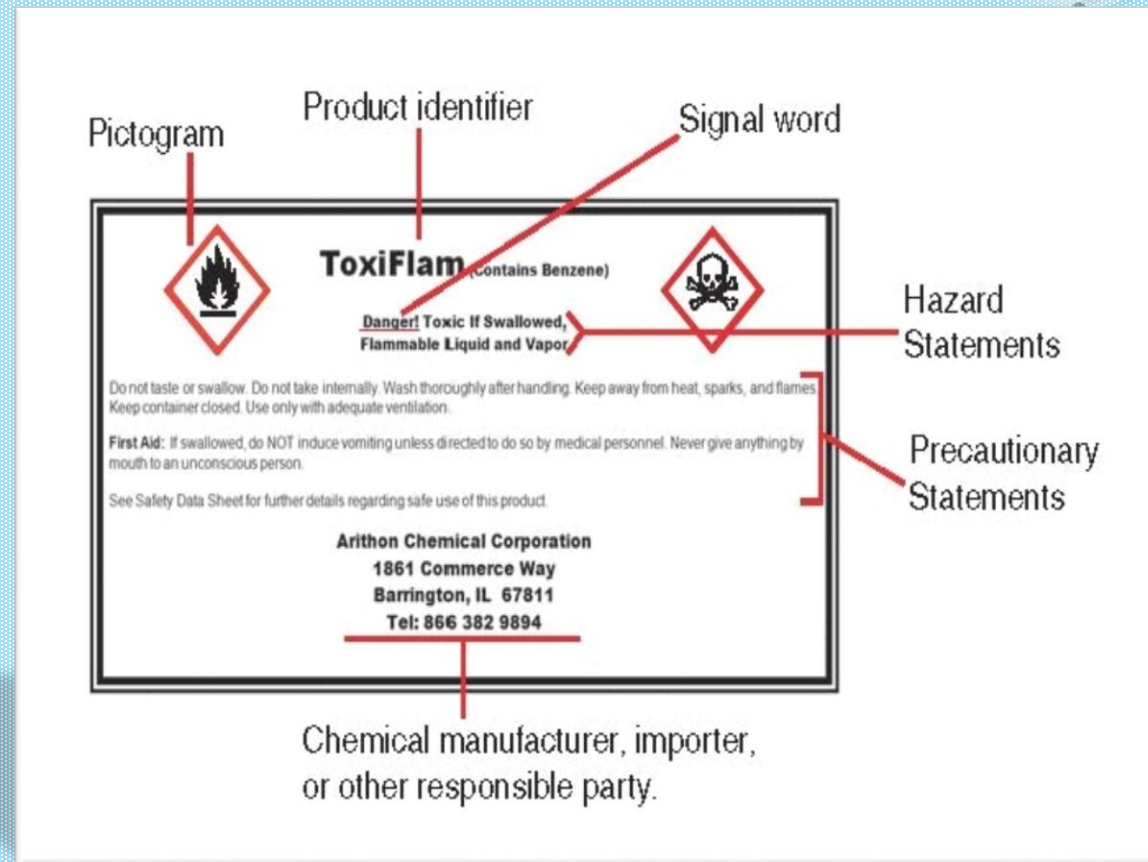




## 3.2 LABELLING

The employer must;

- Ensure that each container of chemicals in the workplace is labeled, tagged or marked with:
  - ✓ Identity of the hazardous chemical
  - ✓ Appropriate hazard warnings



## GHS Labelling Requirements



## 3.2 LABELLING.....



GHS pictogram	Code and meaning	GHS pictogram	Code and meaning	GHS pictogram	Code and meaning
	C Corrosive		N Nature polluting		Xn Harmful
	E Explosive		O Oxidising		Non-flammable gas
	F Flammable		T Toxic		Hazardous to health



## 4. BEST PRACTICES FOR CHEMICALS MANAGEMENT







## 5.0 CONCLUSION

- **Chemical Safety Management** is for peoples health, property, and the environment protection by minimizing chemical risks.
- It relies on **proper handling, storage, labeling & disposal of chemicals** to prevent spills, exposures and accidents.
- Requires the **right tools & practices** such as PPE, spill kits, drip trays & segregation.
- Strengthened through **training and safety culture** where everyone understands hazards and follows procedures.

**Safe chemical management is about being proactive, prepared, and responsible.**





